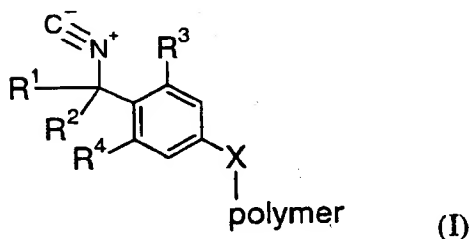


## CLAIMS

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1. A functionalized polymeric reagent for solution and solid-phase synthesis comprising a polymer and a linker moiety characterized in that the linker comprises an acid labile isonitrile moiety.
  2. A functionalized polymeric reagent for solution and solid-phase synthesis of Formula I



wherein

X is carbon, oxygen, a PEG-chain, or a  $-(CH_2)_n-CONH-$  group,

$R^1$  is hydrogen, phenyl, or substituted phenyl group,

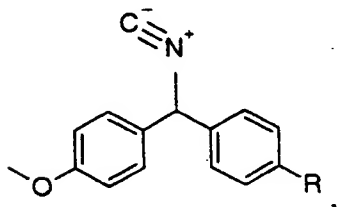
$R^2$  is hydrogen, phenyl, or substituted phenyl group,

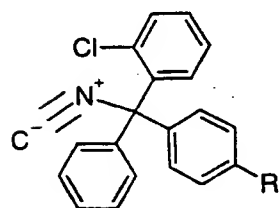
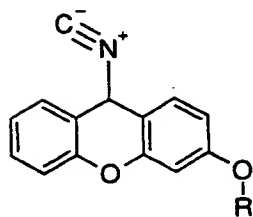
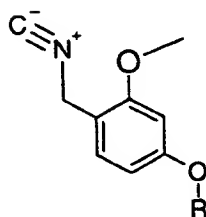
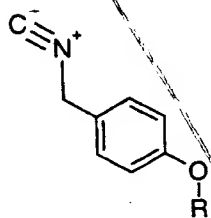
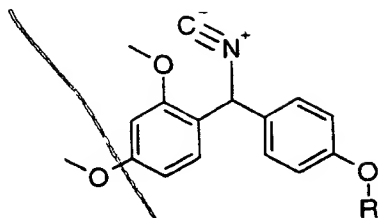
$R^3$  is hydrogen,  $C_1-C_6$  alkyl,  $C_1-C_6$  alkoxy, or phenoxy,

$R^4$  is hydrogen,  $C_1-C_6$  alkyl,  $C_1-C_6$  alkoxy, or phenoxy, and

n is an integer from 1 to 4.

3. The functionalized polymeric reagent according to claims 1 or 2 being,





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wherein R is a polymer directly attached to the linker or through a  $-(CH_2)_n-CONH-$  group, or a PEG-chain.

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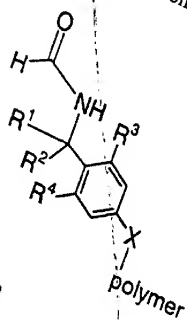
4. The functionalized polymeric reagent according to any of claims 1-3, characterized in that the polymer is a soluble polymer.
5. The functionalized polymeric reagent according to any of claims 1-3, characterized in that the polymer is an insoluble polymer.

6. A method for preparing a functionalized polymeric reagent according to claims 1-5, comprising the step of,
- a) reacting the polymeric support with a formylating reagent;
  - b) converting the thereby formed formamido group into an isonitrile moiety.
- 5
7. The method according to claim 6, characterized in that the formylating reagent used in step a) is 2,4,5-trichlorophenyl formate.
8. The method according to claim 6 and 7, characterized in that the reagent used in step b) is carbon tetrachloride / triphenylphosphine in the presence of triethylamine.
- 10
9. A method for preparing an organic compound by solution and solid-phase synthesis comprising the steps of
- a) immobilizing a substrate compound to the isonitrile moiety of the functionalized polymeric reagent according to claims 1-4
  - 15 b) performing at least one further reaction step, and
  - c) cleaving the compound from the polymeric support by acid treatment.
10. The method according to claim 9 comprising an additional reaction step after the
- 20 cleavage from the polymeric support.
11. The method according to claim 9, characterized in that the method is performed with a plurality of substrate compounds and/or plurality of further reaction steps to give a library of organic compounds.
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12. The method according to claim 9, characterized in that at least one of the reaction steps is a multicomponent reaction.

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13. A kit comprising a container of a functionalized polymeric reagent according to claims 1-4.

14. Intermediate compounds of Formula II

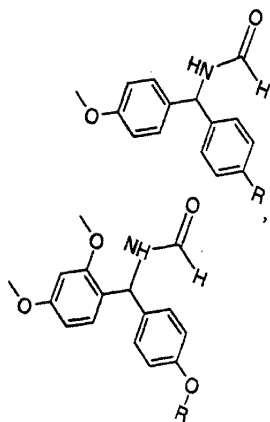


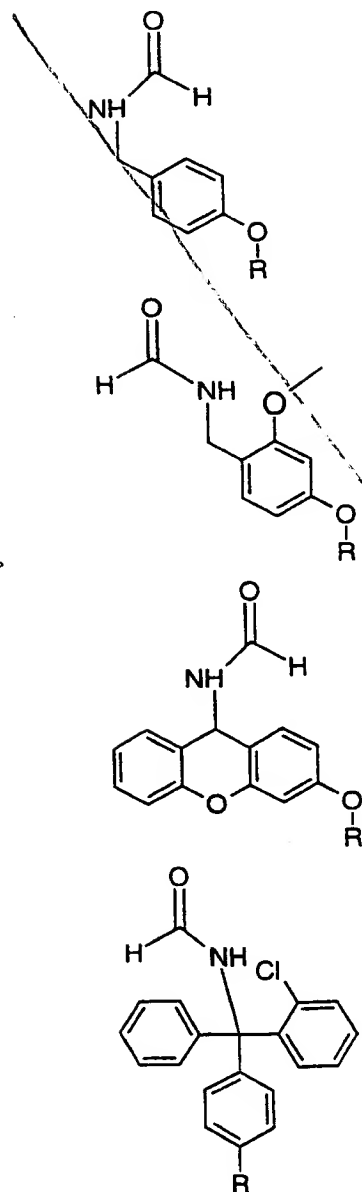
(II)

wherein

- X is carbon, oxygen, a PEG-chain, or a  $-(CH_2)_n-CONH-$  group,  
 $R^1$  is hydrogen, phenyl, or substituted phenyl group,  
 $R^2$  is hydrogen, phenyl, or substituted phenyl group,  
 $R^3$  is hydrogen,  $C_1-C_6$  alkyl,  $C_1-C_6$  alkoxy, or phenoxy,  
 $R^4$  is hydrogen,  $C_1-C_6$  alkyl,  $C_1-C_6$  alkoxy, or phenoxy, and  
 n is an integer from 1 to 4.

15. Compounds according to claim 13 being





- 5 wherein, R represents the polymeric support either directly attached to the linker or through a spacer moiety, such as a PEG-chain or a  $-(CH_2)_n-$ CONH- group.

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